

REMARKS

The Office Action dated January 13, 2005, has been received and carefully noted. The amendments made herein and the following remarks are submitted as a full and complete response thereto.

Claims 6-11 have been amended. Applicants submit that the amendments made herein are fully supported in the specification and the drawings as originally filed, and therefore no new matter has been added. Accordingly, claims 6-11 are pending in the present application and are respectfully submitted for consideration.

Rejections Under 35 U.S.C. § 102(e)

Claims 6, 7, 9 and 10 were rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Wenzel et al. (U.S. Patent No. 6,150,724, hereinafter "Wenzel"). Applicants respectfully traverse the rejection and submit that each of these claims recites subject matter that is neither disclosed nor suggested by the cited prior art.

Claim 6 recites a second semiconductor chip comprising, among other features, second chip connection portions arranged along at least one pair of opposite sides of a region corresponding to the chip bonding region, a distance between the second chip connection portions arranged along a first side of said at least one pair of opposite sides.

Claim 9 recites a semiconductor chip having, among other features, second chip connection portions disposed along an edge of the second semiconductor chip and are arranged along at least one pair of opposite sides of a region corresponding to the chip bonding region, a distance between the second chip connection portions arranged along said first side of said at least one pair of opposite sides to the second chip

connection portions arranged along a second side of said at least one pair of opposite sides.

It is respectfully submitted that the prior art fails to disclose or suggest at least the above-mentioned features of the Applicants' invention.

Wenzel discloses a bump-bonded multi-chip flip-chip device (100) formed by manufacturing a mother chip (102) having a first set (207) of bumps (212) and a second set (209) of bump contacts (210). A daughter chip (104) is also formed which has conductive bumps (312). The daughter chip (104) and the mother chip (102) of Wenzel are placed face-to-face and contact is made between the daughter chips bumps (312) and the mother chips bump contact regions (210). After interconnection of the daughter chip (104) and the mother chip (102), the mother chip (102) is contacted to an IC package (106) using the bumps (212). The package (106) uses a plurality of metallic layers interconnected selectively by conductive vias in order to route signals between the mother chip (102), the daughter chip (104), and external terminals (112) of the package (106).

Applicants submit that Wenzel fails to disclose or suggest each and every element recited in claims 6 and 9 of the present application. In particular, it is submitted that the Multi-chip semiconductor device of Wenzel is neither comparable nor analogous to the present invention. In fact, Wenzel fails to disclose at least the feature of "the second chip connection portions..." as recited in claims 6 and 9 of the present application. Therefore, Applicants submit that Wenzel fails to disclose each and every element recited in claims 6 and 9 of the present application.

Moreover, to qualify as prior art under 35 U.S.C. §102, a single prior art reference must teach, i.e., identically describe, each feature of a rejected claim. As explained above, Wenzel fails to disclose or suggest each and every feature of claims 6 and 9. Accordingly, Applicants respectfully submit that claims 6 and 9 are not anticipated by Wenzel. Therefore, Applicants respectfully submit that claims 6 and 9 are allowable.

As claim 7 depends from claim 6, and claim 10 depends from claim 9, Applicants submit that each of these claims incorporates the patentable aspects therein, and are therefore allowable for at least the reasons set forth above with respect to the independent claims, as well as for the additional subject matter recited therein.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claims 8 and 11 Rejected Under 35 U.S.C. § 103(a)

Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Wenzel, and claim 11 was rejected as unpatentable over Wenzel as applied to claim 9. Applicants respectfully traverse the rejection and submit that each of these claims recites subject matter that is neither disclosed nor suggested by the cited prior art.

Claim 8 recites a semiconductor chip comprising, among other features, chip connection portions arranged along at least one pair of opposite sides of the chip connection region, a distance between the chip connection portions arranged along a first side of said at least one pair of opposite sides is shorter than a distance from the chip connection portions arranged along said first side of said at least one pair of opposite sides to the chip connection portions arranged along a second side of said at least one pair of opposite sides, and at least part of the chip connection portions are

common to the plurality of predetermined types of semiconductor chips so as to be used for input/output of signals having identical specifications.

As discussed above, Applicants submit that Wenzel fails to disclose or suggest at least the above feature, and therefore claim 8 is allowable.

As claim 11 depends from claim 9, Applicants submit that this claim incorporates the patentable aspects therein, and is therefore allowable for at least the reasons set forth above with respect to the independent claim, as well as for the additional subject matter recited therein.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Conclusion

In view of the above, Applicants respectfully submit that each of claims 6-11 recites subject matter that is neither disclosed nor suggested in the cited prior art. Applicants also submit that this subject matter is more than sufficient to render the claims non-obvious to a person of ordinary skill in the art, and therefore, respectfully request that claims 6-11 be found allowable and that this application be passed to issue.

If for any reason, the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper has not been timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing docket number 103213-00051**.

Respectfully submitted,



Sam Huang
Attorney for Applicants
Registration No. 48,430

Customer No. 004372
ARENT FOX, PLLC
1050 Connecticut Avenue, N.W., Suite 400
Washington, D.C. 20036-5339
Tel: (202) 857-6000
Fax: (202) 638-4810

CMM:SH

TECH/292723.1